

REMARKS/ARGUMENTS

Favorable consideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-20 are pending in the application. Claim 1 is amended and new Claims 9-20 are added by the present amendment. As amended Claim 1 and new Claims 9-20 are supported by the original disclosure,¹ no new matter is added.

In the outstanding Office Action, Claims 1-8 were rejected under 35 U.S.C. §102(b) as anticipated by Decker et al. (U.S. Patent No. 6,554,569, hereinafter “Decker”).

The outstanding rejection is respectfully traversed.

Claim 1 recites in part, “the stacking axis presents, in the lower and upper portions, a tangential component that is substantially radial, and in the intermediate portion, a tangential component having two slopes.”

Decker relates to a compressor outlet guide vane. These vanes form a diffuser assembly which is disposed between the compressor and the combustor of the engine. The vanes are fixed and joined between outer and inner annular end walls 38 and 40.²

The outstanding Office Action asserted that Figures 6 and 7 of Decker show two slopes in the intermediate portion as defined in Claim 1. However, these figures show that the bend 78 is only present on the leading and trailing edges of the vane.³

In the invention recited in Claim 1, the two slopes in the intermediate portion are tangential components of stacking axis of the vane. It is respectfully noted that the “tangential stacking axis of the vane” is defined by a projection of the stacking axis of the blade onto a plane defined by the tangential axis Y and the radial axis Z of the vane.⁴ It is respectfully submitted that the “stacking axis” 71 described in Decker is not a “stacking

¹See, e.g., the specification at page 6, lines 31-34 and Figure 3.

²See Decker, column 3, lines 60-61.

³See Decker, column 5, lines 5-10.

⁴See, e.g., the specification at page 6, lines 7-11 and 21-25.

axis" as recited in Claim 1, as Decker states, "The stacking axis 71 is a line connecting airfoil cross section center of gravities (CGs) of at a tip 31 and a base 32 of the vane 42."⁵ Thus axis 71 is a line connecting 2 centers of gravity, not a line through all the centers of gravity.

It is respectfully submitted that line 77 of Decker is more representative of such a "stacking axis." In that respect, line 77 does not include any portion which has a tangential component that is substantially radial. For example, the lower and upper portions of line 77 make obtuse angles 84 with the end walls 38 and 40. Thus, Decker does not describe "the stacking axis presents, in the lower and upper portions, a tangential component that is substantially radial," as recited in Claim 1. As Decker does not teach each and every element of Claim 1, Claim 1 (and Claims 2-10 dependent therefrom) is not anticipated by Decker and is patentable thereover.

Further, the invention recited in new Claim 9 recites that the vane is a stationary vane of a compressor of the turbomachine, the vane is only connected to the turbomachine at the upper portion of the vane, and the upper portion of the vane is connected to an outer shroud of a stator of the compressor. New Claim 10 recites that the lower portion of the vane extends to a location proximate an inner shroud of a rotor disk of a compressor of the turbomachine without being connected to the inner shroud, and the rotor disk is configured to rotate around the longitudinal axis of the turbomachine.⁶ As Decker describes an outlet guide vane 42 connected at each end to outer and inner annular end walls 38 and 40, respectively,⁷ Decker does not teach the invention recited in Claims 9 or 10. Accordingly, Claims 9 and 10 further define over Decker.

New Claim 11 recites in part, "the stacking axis presents, in the lower and upper portions, a tangential component which extends parallel to the radial axis of the vane, and in the intermediate portion, a tangential component having two slopes with a C-shaped form."

⁵Decker, column 4, line 65 to column 5, line 1.

⁶See, e.g., the specification at page 5, lines 14-15 and 24-28 and Figures 1-3.

⁷See Decker, column 3, lines 53-61 and Figure 4.

As discussed above, Decker does not describe a vane having any portion of a stacking axis including "a tangential component which extends parallel to the radial axis of the vane." Thus, Decker does not describe that "the stacking axis presents, in the lower and upper portions, a tangential component which extends parallel to the radial axis of the vane," as recited in Claim 11. As Decker does not teach each and every element of Claim 11, Claim 11 (and Claims 12-20 dependent therefrom) is not anticipated by Decker and is patentable thereover.

New Claims 19 and 20 further define over Decker for the reasons described above with respect to Claims 9 and 10.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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